

Message Text

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PAGE 01 GENEVA 06240 01 OF 02 082103Z

63

ACTION ACDA-10

INFO OCT-01 IO-10 ISO-00 ERDA-05 AF-06 ARA-06 CIAE-00

DODE-00 EA-06 EUR-12 PM-03 H-02 INR-07 L-03 NASA-01

NEA-10 NSAE-00 NSC-05 OIC-02 SP-02 PA-01 PRS-01

OES-03 SS-15 USIA-06 SAJ-01 /118 W

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FM USMISSION GENEVA

TO SECSTATE WASHDC 5161

LIMITED OFFICIAL USE SECTION 1 OF 2 GENEVA 6240

DISTO

E.O. 11652: N/A

TAGS: CCD, PARM

SUBJ: CCD: DRAFT STATEMENT ON ENMOD

FOLLOWING DRAFT CCD PLENARY STATEMENT WAS PREPARED BY
U.S.S. ENMOD EXPERTS TO SUMMARIZE INFORMAL SESSIONS
COMPLETED THIS WEEK. U.S. DEL PLANS TO DELIVER STATEMENT
AT TUESDAY, AUGUST 12 PLENARY AND WOULD THEREFORE
APPRECIATE ANY COMMENTS DEPARTMENT MAY WISH TO MAKE
BY COB MONDAY, AUGUST 11.

BDGIN TEXT:

1. DURING THE PAST WEEK WE HAVE CONDUCTED A SERIES
OF INFORMAL MEETINGS WITH EXPERTS IN THE FIELD OF
ENVIRONMENTAL MODIFICATION IN ORDER BETTER TO ACQUAINT
OURSELVES WITH THE PROBLEMS INVOLVED IN DEVELOPING
LIMITATIONS ON THE USE OF ENVIRONMENTAL MODIFICATION
TECHNIQUES FOR MILITARY AND OTHER HOSTILE PURPOSES.
AS I SAID DURING MY INTRODUCTORY REMARKS AT THESE
SESSIONS, I REGARDED THE PURPOSE OF THESE MEETINGS
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PAGE 02 GENEVA 06240 01 OF 02 082103Z

AS PRIMARILY EDUCATIONAL AND, IN MY VIEW, THAT

OBJECTIVE WAS IN GREAT MEASURE ACHIEVED. I SHOULD LIKE TO EXPRESS MY THANKS TO THE DELEGATION OF SWEDEN FOR ITS INITIATIVE IN PROPOSING THIS MOST INTERESTING AND USEFUL SERIES OF MEETINGS. I SHOULD ALSO LIKE TO EXPRESS MY THANKS TO ALL THOSE DELEGATIONS AND EXPERTS WHO PARTICIPATED.

2. WE HAVE CAREFULLY REVIEWED THE PRESENTATIONS MADE BY PARTICIPANTS IN THE INFORMAL SESSIONS, AS WELL AS THE RESPONSES TO THE QUESTIONS PUT TO SEVERAL EXPERTS.

3. I WOULD LIKE TO SUMMARIZE BRIEFLY WHAT MY DELEGATION BELIEVES WE HAVE LEARNED ABOUT THE POSSIBLE MEANS FOR MODIFICATION OF THE ENVIRONMENT FOR PEACEFUL AS WELL AS HOSTILE PURPOSES. THESE MEANS RELATE TO FOUR MAIN SUBDIVISIONS OF THE ENVIRONMENT; THE ATMOSPHERE, THE OCEANS, THE SOLID EARTH, AND THE UPPER ATMOSPHERE.

4. ATMOSPHERIC BEHAVIOR OVER THE SHORT TERM CAN IN FACT ALREADY BE MODIFIED TO SOME DEGREE LOCALLY. THE SUCCESSFUL DISPERSAL OF COLD FOGS IS NOW CARRIED OUT OPERATIONALLY. OTHER TECHNIQUES, SOME OF WHICH ARE CARRIED OUT ON AN OPERATIONAL BASIS, ARE ON LESS CERTAIN SCIENTIFIC FOOTING; HOWEVER, WHILE THEIR POSSIBILITIES ARE STILL VEERY LIMITED, THEY DO HAVE POTENTIALLY IMPORTANT ECONOMIC BENEFITS. FOR EXAMPLE, THE MODIFICATION OF PRECIPITATION (I.E., RAIN AND SNOW) TO ENHANCE WATER SUPPLIES OR TO REDUCE DAMAGE BY DROUGHTS OR FLOODS OBVIOUSLY COULD HAVE MAJOR IMPORTANCE THROUGHOUT THE WORLD. DESPITE INTENSIVE STUDY, PROSPECTS TO DATE ARE STILL UNCERTAIN. INDIVIDUAL CLOUDS CAN UNDOUBTEDLY BE ALTERED BY SEEDING. PRECIPITATION CAN INDEED BE MODIFIED LOCALLY UP TO PERHAPS 30 0/0 UNDER CERTAIN LIMITED CONDITIONS. RESEARCH EFFORTS CONTINUE, BUT TOO LITTLE IS YET KNOWN ABOUT THE DETAILED PROCESSES INVOLVED TO PERMIT US TO DRAW ANY DEFINITE CONCLUSIONS ABOUT THE EFFICACY OF THIS TECHNIQUE, PARTICULARLY LIMITED OFFICIAL USE

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PAGE 03 GENEVA 06240 01 OF 02 082103Z

LARLY AS IT MIGHT BE APPLIED ON A LARGE SCALE. AT PRESENT, ATTEMPTS TO INCREASE PRECIPITATION HAVE SOMETIMES ACTUALLY RESULTED IN A DECREASE, OR ON OTHER OCCASIONS HAVE HAD NO CLEARLY IDENTIFIABLE EFFECT AT ALL.

5. MITIGATION OF SEVERE STORMS SUCH AS HURRICANES, AND SUPPRESSION OF HAIL ARE THE SUBJECT OF STUDY

AROUND THE WORLD. RESULTS TO DATE ARE ENCOURAGING, BUT STILL LARGELY INDETERMINATE, SINCE TOO LITTLE CONTROLLED EXPERIMENTATION HAS BEEN CARRIED OUT TO PROVIDE DEFINITIVE EVIDENCE OF THE POSITIVE RESULTS.

6. CLIMATE MODIFICATION AMOUNTS TO LONG-TERM, WIDESPREAD CHANGES IN THE WEATHER. MANY HYPOTHETICAL TECHNIQUES HAVE BEEN ADVANCED THAT MIGHT INFLUENCE REGIONAL CLIMATE. HOWEVER, NO RELIABLE, PREDICTABLE TECHNIQUES FOR CLIMATE MODIFICATION ARE YET KNOWN. IT SHOULD BE RECOGNIZED THAT SELF-CORRECTING FORCES IN THE EARTH'S ATMOSPHERE TEND TO SMOOTH OUT ANY SHORT-TERM, LOCAL PERTURBATIONS, HOWEVER VIOLENT. EVEN MULTI-MEGATON NUCLEAR EXPLOSIONS IN THE ATMOSPHERE HAVE HAD ONLY LOCAL AND VERY SHORT-LIVED EFFECTS ON THE WEATHER.

7. OCEAN MODIFICATION MIGHT INVOLVE CHANGING MAJOR CURRENTS, OR PERHAPS PRODUCING TIDAL WAVES. MAN DOES NOT YET KNOW HOW TO PREDICT WITH CONFIDENCE THE RESULTS OF ANY SCHEME TO DIVERT THE OCEAN CURRENTS. WITH THE LARGE AND POORLY UNDERSTOOD FORCES INVOLVED, HOWEVER, THE EFFECTS OF ANY ATTEMPT MIGHT WELL BE CATASTROPHIC AND IRREVERSIBLE.

8. MODIFYING THE SOLID EARTH BY, FOR EXAMPLE, DELIBERATELY PRODUCING EARTHQUAKES IS NOT YET POSSIBLE ON A SIGNIFICANT SCALE. UNDERGROUND NUCLEAR EXPLOSIONS CANNOT TRIGGER AN EARTHQUAKE WHICH RELEASES MORE ENERGY THAN THE EXPLOSION ITSELF UNLESS SUCH AN EARTHQUAKE IS ALREADY IMMINENT AND PRECISELY AT THAT LOCATION. LUBRICATION OF FAULTS BY PUMPING IN FLUID UNDER HIGH PRESSURE CAN APPARENTLY TRIGGER SMALL LIMITED OFFICIAL USE

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PAGE 04 GENEVA 06240 01 OF 02 082103Z

LOCAL QUAKES, BUT TO CONCEIVE OF A WEAPONS USE OF SUCH A SCHEME SEEMS ALMOST IMPOSSIBLE. ELABORATE EQUIPMENT AND HUNDREDS OF MILLIONS OF GALLONS OF FLUID WOULD BE REQUIRED, AND IT WOULD NOT BE POSSIBLE TO CAUSE AN EARTHQUAKE IN AN AREA REMOTE FROM THE INJECTION SITE.

9. MODIFICATION OF THE UPPER ATMOSPHERE MIGHT BE POSSIBLE BY, FOR EXAMPLE, MODIFYING THE OZONE LAYER TO AFFECT TRANSMISSION OF ULTRA-VIOLET RADIATION. AGAIN, HOWEVER, THERE WOULD APPEAR TO BE MITIGATING, SELF-CORRECTING EFFECTS, FOR EXAMPLE DUE TO HORIZONTAL DIFFUSION. MOREOVER, THE BASIC SCIENTIFIC FACTS ARE INSUFFICIENTLY UNDERSTOOD, SO THAT THE EFFECTS WOULD NECESSARILY BE HIGHLY UNPREDICTABLE.

10. IT SEEMS TO ME TO BE EVIDENT THAT MOST OF THE
TECHNIQUES FOR MODIFICATION OF THE ENVIRONMENT THAT
WERE DESCRIBED OR HYPOTHEZIZED LIE IN THE FUTURE.
NEVERTHELESS, WE NOW UNDERSTAND ENOUGH ABOUT THE
POTENTIALLY DISASTROUS CONSEQUENCES THAT COULD FOLLOW
FROM THE USE OF TECHNIQUES TO MODIFY THE ENVIRONMENT
FOR HOSTILE PURPOSES TO PERMIT US TO SAY THAT THE
PRESENT TIME IS THE PROPER TIME FOR US TO GIVE FULL
ATTENTION TO THE ARMS CONTROL IMPLICATIONS OF THIS
DANGER. AS SEVERAL OF THE PARTICIPANTS POINTED OUT
DURING THE COURSE OF THE DISCUSSION, IT IS FAR EASIER
AND MORE SENSIBLE TO WORK OUT MEASURES FOR THE CONTROL
OF NEW METHODS OF WARFARE BEFORE THOSE METHODS HAVE
BEEN FIRMLY ESTABLISHED, RATHER THAN AFTER CONSIDERABLE
TIME, ENERGY, AND FUNDS HAVE BEEN INVESTED IN THEIR
DEVELOPMENT AND IN THE SEARCH FOR COUNTERMEASURES.
MY DELEGATION FULLY SUPPORTS THIS POINT OF VIEW.

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PAGE 01 GENEVA 06240 02 OF 02 082150Z

63

ACTION ACDA-10

INFO OCT-01 IO-10 ISO-00 ERDA-05 AF-06 ARA-06 CIAE-00

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LIMITED OFFICIAL USE SECTION 2 OF 2 GENEVA 6240

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11. MR. CHAIRMAN, I BELIEVE IT IS IMPORTANT THAT WE ATTEMPT TO DRAW FROM OUR INFORMAL SESSIONS A COMMON UNDERSTANDING OF PRECISELY HOW WE ARE TO DEFINE THE CONCEPTS OF, FIRST, ENVIRONMENTAL MODIFICATION AND, SECOND, THE USE OF ENVIRONMENTAL MODIFICATION TECHNIQUES FOR MILITARY PURPOSES. I BELIEVE THAT IT IS ALSO IMPORTANT TO ATTEMPT TO DRAW FROM OUR DISCUSSIONS A COMMON UNDERSTANDING OF WHAT THESE CONCEPTS DO NOT IMPLY, THAT IS, TO DELIMIT AS BEST AS POSSIBLE THE SUBJECT MATTER AT HAND WITH A VIEW TO PROCEEDING IN THE WORK THAT LIES AHEAD FOR OUR COMMITTEE.

12. OUR DELEGATION BELIEVES, AND I THINK THIS BELIEF IS SHARED BY OTHER DELEGATIONS HERE, THAT ENVIRONMENTAL MODIFICATION REFERS, IN THE ARMS CONTROL CONTEXT, TO LIMITED OFFICIAL USE

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PAGE 02 GENEVA 06240 02 OF 02 082150Z

THE DELIBERATE MANIPULATION OF THE NATURAL PROCESSES OF THE ENVIRONMENT. WE TAKE THE TERM ENVIRONMENT IN THE UNIVERSAL SENSE, I.M., WHAT IS ENCOMPASSED BY THE PLANET EARTH, ITS WATERS, ITS ATMOSPHERE, AND ITS LIVING THINGS, AND OUTER SPACE.

13. THE USE OF TECHNIQUES FOR MODIFYING THE ENVIRONMENT FOR MILITARY OR OTHER HOSTILE PURPOSES THEN BECOMES THE DELIBERATE MANIPULATION OF THESE NATURAL PROCESSES FOR THE PURPOSE OF CAUSING DAMAGE, DESTRUCTION, OR INJURY TO ANOTHER STATE.

14. IT HAS BECOME APPARENT IN OUR DISCUSSIONS THAT THERE ARE TYPES OF WEAPONS AND MILITARY ACTIVITIES OTHER THAN ENVIRONMENTAL MODIFICATION TECHNIQUES WHICH CAN ALSO CAUSE ENVIRONMENTAL DAMAGE--BOMBS LEAVE CRATERS, THE MOVEMENT OF MEN AND EQUIPMENT LEAVES TRACES ON THE EARTH'S SURFACE, AND VEHICLES EMIT EXHAUSTS WHICH CAN CONTRIBUTE TO THE POLLUTION OF THEIR SURROUNDINGS. IT IS CLEAR, HOWEVER, THAT THESE EFFECTS ARE NOT WHAT WE SHOULD CALL HOSTILE USES OF ENVIRONMENTAL MODIFICATION TECHNIQUES. MUCH AS WE WOULD LIKE TO SEE THE SCOURGE OF WAR ELIMINATED COMPLETELY, LIMITATIONS ON THE USE OF ENVIRONMENTAL MODIFICATION TECHNIQUES FOR MILITARY AND OTHER HOSTILE PURPOSES SHOULD NOT BE EXTENDED TO COVER THESE CASES OF INCIDENTAL DAMAGE.

15. ANOTHER ASPECT OF THE QUESTION OF DELIMITING THE SCOPE OF POSSIBLE PROHIBITIONS WHICH WAS RAISED DURING

THE COURSE OF THE INFORMAL MEETINGS CONCERNED CIVILIAN MODIFICATION ACTIVITIES CARRIED OUT FOR PEACEFUL PURPOSES, BUT WHICH NEVERTHELESS HAVE AN ADVERSE IMPACT ON ANOTHER STATE. THE PROBLEM UNDOUBTEDLY ARISES OF WHERE TO DRAW THE LINE IN THE REGULATION OF SUCH ACTIVITIES. I BELIEVE THAT, ONCE WE HAVE WORKED OUT EFFECTIVE LIMITATIONS ON THE MILITARY USES OF ENVIRONMENTAL MODIFICATION TECHNIQUES AN APPROPRIATE LEGAL REGIME TO GOVERN PEACEFUL ACTIVITIES NOT ALREADY COVERED BY EXISTING INTERNATIONAL LAW COULD, IF NECESSARY, BE EXAMINED. I SEE NO REASON TO LIMITED OFFICIAL USE

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PAGE 03 GENEVA 06240 02 OF 02 082150Z

BELIEVE THAT SUCH A REGIME WOULD NOT INTERFACE IN A SATISFACTORY MANNER WITH THE LIMITATIONS ON HOSTILE USE WHICH WE ARE ABLE TO ACHIEVE IN THE CCD.

16. DURING OUR DISCUSSIONS LAST WEEK IT BECAME CLEAR TO ME THAT THE PRIMARY NEED IS FOR LIMITATIONS ON THE HOSTILE USE OF ENVIRONMENTAL MODIFICATION TECHNIQUES THAT PRODUCE WIDESPREAD, LONG LASTING OR SEVERE EFFECTS.

17. MR. CHAIRMAN, THE NATURE AND SCOPE OF CURRENT EFFORTS IN RESEARCH ON AND DEVELOPMENT OF ENVIRONMENTAL MODIFICATION TECHNIQUES, AND OF CURRENT OPERATIONAL ACTIVITIES IN THIS AREA, WERE CLARIFIED DURING OUR INFORMAL MEETINGS. I WAS IMPRESSED WITH THE MUCH LARGER EFFORTS THAT ARE CONTINUING IN THE BASIC ENVIRONMENTAL SCIENCES WHICH ARE A PREREQUISITE TO ANY TYPE OF MODIFICATION CAPABILITY. ONE OF THE IMPORTANT ASPECTS OF CURRENT RESEARCH AND DEVELOPMENT ACTIVITY IN THIS FIELD IS THE INABILITY TO DISTINGUISH BETWEEN ACTIVITIES INTENDED FOR PEACEFUL AND FOR HOSTILE PURPOSES. THEREFORE IT SEEMS TO US THAT, WITH RESPECT TO RESEARCH AND DEVELOPMENT ACTIVITIES, WE MUST TAKE CARE THAT WE DO NOT INHIBIT THOSE ACTIVITIES WHICH ARE NECESSARY AND PROPER FOR THE EVENTUAL DEVELOPMENT OF TECHNIQUES TO MODIFY THE ENVIRONMENT ON A SIGNIFICANT SCALE FOR PEACEFUL PURPOSES.

18. IN CONCLUSION, MY DELEGATION BELIEVES THERE ARE SEVERAL GOALS IN THE FIELD OF ENVIRONMENTAL MODIFICATION THAT SHOULD BE PURSUED: FIRST, TO PREVENT THE EMERGENCE OF THE DANGERS INHERENT IN THE EXPLOITATION FOR MILITARY ENDS OF ENVIRONMENTAL MODIFICATION ACTIVITIES; SECOND, TO PRESERVE FOR MANKIND AS A WHOLE THE NATURAL ENVIRONMENT; THIRD, TO PRESERVE AND TO PROMOTE INTERNATIONAL COOPERATION IN UNDERSTANDING HOW THE ENVIRONMENT WORKS AND HOW ITS COMPONENTS INTERACT,

AND FOURTH, EVENTUALLY TO FACILITATE THE POSSIBILITY
OF MODIFICATION OF THE ENVIRONMENT ON A SIGNIFICANT
SCALE FOR PEACEFUL PURPOSES SHOULD SUCH MODIFICATION
PROVE FEASIBLE AND VALUABLE.
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PAGE 04 GENEVA 06240 02 OF 02 082150Z

19. I BELIEVE OUR INFORMAL MEETINGS WITH EXPERTS
HAVE SERVED THESE GOALS WELL.END TEXT.ABRAMS

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Message Attributes

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